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DATE: Thursday, January 27, 2005

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		<i>DB=USPT,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>	
<input type="checkbox"/>	L13	L12 and (molecular adj1 weight)	37
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<input type="checkbox"/>	L11	(silicone) adj3 (hair adj1 condition\$)	220
<input type="checkbox"/>	L10	(silicone) adj5 (hair adj1 condition\$)	257
<input type="checkbox"/>	L9	L7 and liposome	5
<input type="checkbox"/>	L8	(silicone) adj5 (hair adj3 condition\$)	294
<input type="checkbox"/>	L7	(silicone) adj10 (hair adj3 condition\$)	371
<input type="checkbox"/>	L6	(polyvinylpyrrolidone or pvp) adj15 (hair adj3 setting)	9
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<input type="checkbox"/>	L4	(polyvinylpyrrolidone or pvp) adj10 (hair adj3setting)	57
<input type="checkbox"/>	L3	(polyvinylpyrrolidone or pvp) adj10 (hair adj3 condition\$)	9
<input type="checkbox"/>	L2	(polyvinylpyrrolidone or pvp) adj5 (hair adj3 condition\$)	6
<input type="checkbox"/>	L1	(polyvinylpyrrolidone or pvp) same (hair adj3 condition\$)	92

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☐ 1. Document ID: US 6710022 B1

Using default format because multiple data bases are involved.

L4: Entry 1 of 7

File: USPT

Mar 23, 2004

US-PAT-NO: 6710022

DOCUMENT-IDENTIFIER: US 6710022 B1

TITLE: Tenside composition containing gemini tensides and co-amphiphiles and production and use thereof

DATE-ISSUED: March 23, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kwetkat; Klaus	Bergkamen			DE
Dahms; Gerd H.	Duisburg			DE

US-CL-CURRENT: [510/119](#); [510/130](#), [510/137](#), [510/138](#), [510/158](#), [510/159](#), [510/488](#),
[510/499](#), [510/506](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 2. Document ID: US 6071535 A

L4: Entry 2 of 7

File: USPT

Jun 6, 2000

US-PAT-NO: 6071535

DOCUMENT-IDENTIFIER: US 6071535 A

TITLE: Lipid vesicles formed with alkylammonium fatty acid salts

DATE-ISSUED: June 6, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hayward; James A.	Stony Brook	NY		
Watkins; David C.	Port Jefferson	NY		
Aust; Duncan T.	Ridge	NY		

US-CL-CURRENT: [424/450](#); [264/4.1](#), [264/4.3](#), [424/401](#), [424/417](#), [424/70.1](#), [424/94.3](#),
[514/880](#), [514/881](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw. D
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☐ 3. Document ID: US 5962015 A

L4: Entry 3 of 7

File: USPT

Oct 5, 1999

US-PAT-NO: 5962015

DOCUMENT-IDENTIFIER: US 5962015 A

TITLE: Stabilized liposomes

DATE-ISSUED: October 5, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Delrieu; Pascal	Castanet Tolosan			FR
Ding; Li	Castanet Tolosan			FR

US-CL-CURRENT: 424/450; 424/401

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw. D
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☐ 4. Document ID: US 5874105 A

L4: Entry 4 of 7

File: USPT

Feb 23, 1999

US-PAT-NO: 5874105

DOCUMENT-IDENTIFIER: US 5874105 A

TITLE: Lipid vesicles formed with alkylammonium fatty acid salts

DATE-ISSUED: February 23, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Watkins; David C.	Port Jefferson Station	NY		
Vichroski; Thomas J.	Bayport	NY		
Hayward; James A.	Stony Brook	NY		

US-CL-CURRENT: 424/450; 264/4.1, 264/4.3

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw. D
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☐ 5. Document ID: DE 4410710 A1

L4: Entry 5 of 7

File: EPAB

Oct 5, 1995

PUB-NO: DE004410710A1

DOCUMENT-IDENTIFIER: DE 4410710 A1

TITLE: Oil-in-water emulsions for thermal stability anti-flatulence agents

PUBN-DATE: October 5, 1995

INVENTOR-INFORMATION:

NAME

COUNTRY

DAHMS, GERD H

DE

INT-CL (IPC): B01 F 17/14; D06 M 15/643; D06 M 13/224; D06 M 13/144; D06 M 13/325;
C10 M 175/04; A61 K 7/42; A61 K 7/11 ; B29 C 33/56; C09 G 1/08

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw D
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☐ 6. Document ID: US 5962015 A

L4: Entry 6 of 7

File: DWPI

Oct 5, 1999

DERWENT-ACC-NO: 1999-609449

DERWENT-WEEK: 199952

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TITLE: Stabilised liposome for encapsulating high proportions of water soluble active cosmetic and pharmaceutical agents

INVENTOR: DELRIEU, P; DING, L

PRIORITY-DATA: 1997US-0850052 (May 2, 1997)

PATENT-FAMILY:

PUB-NO

PUB-DATE

LANGUAGE

PAGES

MAIN-IPC

US 5962015 A

October 5, 1999

009

A61K009/127

INT-CL (IPC): A61 K 9/127

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw D
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☐ 7. Document ID: JP 60153938 A

L4: Entry 7 of 7

File: DWPI

Aug 13, 1985

DERWENT-ACC-NO: 1985-234429

DERWENT-WEEK: 198538

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TITLE: New liposome prepn. - by mixing phospho-lipid with poly:ol, heating and blending

PRIORITY-DATA: 1984JP-0008499 (January 23, 1984)

PATENT-FAMILY:

PUB-NO

PUB-DATE

LANGUAGE

PAGES

MAIN-IPC

JP 60153938 A

August 13, 1985

005

INT-CL (IPC): A23L 1/03; A61K 7/00; A61K 9/00; B01J 13/02

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw D
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Terms

Documents

liposome same conditioning same hair

7

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L5: Entry 12 of 30

File: USPT

Apr 22, 1997

DOCUMENT-IDENTIFIER: US 5622712 A

TITLE: N-[.omega., (.omega.-1)-dialkyloxy]- and N-[.omega., (.omega.-1)-dialkenyloxy]-alk-1-yl-N, N, N-tetrasubstituted ammonium lipids and uses therefor

Detailed Description Text (61):

The compounds of Formula I are particularly useful in the preparation of liposomes, but may be used in any of the many uses for which cationic lipids find application. For example, they may be used in industrial applications, in food or feeds, in pharmaceutical formulations, cosmetological compositions, or other areas where lipids may be employed. These compounds may also be used in cosmetology, for example, in makeups, lipstick, eyeshadow material, fingernail polishes, body lotions, moisturizing creams, and the like. They may also be used for application to the hair, either alone or in combination with other materials, such as in shampoos, hair conditioners, permanent wave formulations or hair straighteners, or as components in hair creams, gels, and the like.

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L5: Entry 19 of 30

File: USPT

Aug 30, 1994

DOCUMENT-IDENTIFIER: US 5342611 A

**** See image for Certificate of Correction ****

TITLE: Hair cleansing composition

Brief Summary Text (41):

Further, the hair cleansing composition of this invention has another application as a conditioner because of a lot of liquid oil contained therein. It can also readily supply oil-soluble ingredients to the scalp and hair fibers, which have so far been deemed as being difficult to be supplied. Particularly, the MAP-containing hair cleansing composition containing a salt (I) of monoalkyl phosphate is characteristic in that the salt (I) forms a lamella liquid crystal structure or a liposome (vesicle) structure together with water and alcohols even at a low concentration, and it is considered that the oil components such as silicone oil are retained stably in those structures to form a transparent or translucent, uniform MAP-containing hair cleansing composition. Consequently, it can provide an especially excellent property to wash out oily dirt on the hair fibers.

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L5: Entry 28 of 30

File: DWPI

Sep 8, 1995

DERWENT-ACC-NO: 1995-320389

DERWENT-WEEK: 200225

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TITLE: Hair conditioner or hair treatment masque - contg. cationic liposome used to deposit an active ingredient on the hair

INVENTOR: FINEL, C M; HAGUE, J D ; REID, E S

PRIORITY-DATA: 1994EP-0301574 (March 4, 1994)

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PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/>	<u>WO 9523578 A1</u>	September 8, 1995	E	024	A61K007/00
<input type="checkbox"/>	<u>ES 2163500 T3</u>	February 1, 2002		000	A61K007/00
<input type="checkbox"/>	<u>AU 9518919 A</u>	September 18, 1995		000	A61K007/00
<input type="checkbox"/>	<u>EP 748202 A1</u>	December 18, 1996	E	000	A61K007/00
<input type="checkbox"/>	<u>US 5605704 A</u>	February 25, 1997		006	A61K009/127
<input type="checkbox"/>	<u>JP 09509671 W</u>	September 30, 1997		023	A61K007/06
<input type="checkbox"/>	<u>EP 748202 B1</u>	September 26, 2001	E	000	A61K007/00
<input type="checkbox"/>	<u>DE 69522930 E</u>	October 31, 2001		000	A61K007/00

INT-CL (IPC): A61 K 7/00; A61 K 7/06; A61 K 9/127

ABSTRACTED-PUB-NO: EP 748202B

BASIC-ABSTRACT:

Deposition of an active ingredient on hair by applying a hair treatment compsn. in which the active ingredient is incorporated in cationic liposomes.

Also claimed, is a hair treatment compsn. which comprises cationic liposomes and an active ingredient.

The active ingredient is water-insoluble. It is selected from sunscreens, anti-dandruff agents, Parsol and Octipirox. The liposomes are formed from a mixt. of cholesterol and cetyl-trimethylammonium chloride (CTAC). The wt. ratio of cholesterol to CTAC is 1:1.

USE - Used in hair conditioner or hair treatment masque compsns.

ADVANTAGE - The cationic liposomes are storage stable and have a strong affinity for hair.

ABSTRACTED-PUB-NO:

US 5605704A

EQUIVALENT-ABSTRACTS:

Deposition of an active ingredient on hair by applying a hair treatment compsn. in which the active ingredient is incorporated in cationic liposomes.

Also claimed, is a hair treatment compsn. which comprises cationic liposomes and an active ingredient.

The active ingredient is water-insoluble. It is selected from sunscreens, anti-dandruff agents, Parsol and Octipirox. The liposomes are formed from a mixt. of cholesterol and cetyl-trimethylammonium chloride (CTAC). The wt. ratio of cholesterol to CTAC is 1:1.

USE - Used in hair conditioner or hair treatment masque compsns.

ADVANTAGE - The cationic liposomes are storage stable and have a strong affinity for hair.

A method for treating hair with an active ingredient comprises applying a hair treatment compsn. comprising a cationic liposomal dispersion incorporating the active ingredient. The cationic liposomal dispersion comprises: (i) 0.5-2% by wt. of a cationic surfactant based on total wt. of the hair treatment compsn., the cationic surfactant being acetyl trimethylammonium salt; (ii) 0.1-1% wt. of cholesterol based on total wt. of the hair treatment compsn.; (iii) 0.005-5% wt. of the active ingredient based on total wt. of the hair treatment compsn., the active ingredient is selected from sunscreen and anti-dandruff agents; where the liposomal dispersion is pre-prepared, including the active ingredient, before combination into the hair treatment compsn.

WO 9523578A

ABSTRACTED-PUB-NO: EP 748202B

EQUIVALENT-ABSTRACTS: Deposition of an active ingredient on hair by applying a hair treatment compsn. in which the active ingredient is incorporated in cationic liposomes. Also claimed, is a hair treatment compsn. which comprises cationic liposomes and an active ingredient. The active ingredient is water-insoluble. It is selected from sunscreens, anti-dandruff agents, Parsol and Octipirox. The liposomes are formed from a mixt. of cholesterol and cetyl-trimethylammonium chloride (CTAC). The wt. ratio of cholesterol to CTAC is 1:1. USE - Used in hair conditioner or hair treatment masque compsns. ADVANTAGE - The cationic liposomes are storage stable and have a strong affinity for hair. US 5605704A A method for treating hair with an active ingredient comprises applying a hair treatment compsn. comprising a cationic liposomal dispersion incorporating the active ingredient. The cationic liposomal dispersion comprises: (i) 0.5-2% by wt. of a cationic surfactant based on total wt. of the hair treatment compsn., the cationic surfactant being acetyl trimethylammonium salt; (ii) 0.1-1% wt. of cholesterol based on total wt. of the hair treatment compsn.; (iii) 0.005-5% wt. of the active ingredient based on total wt. of the hair treatment compsn., the active ingredient is selected from sunscreen and anti-dandruff agents; where the liposomal dispersion is pre-prepared, including the active ingredient, before combination into the hair treatment compsn. WO 9523578A

CHOSEN-DRAWING: Dwg.0/0

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☐ 1. Document ID: US 6710022 B1

Using default format because multiple data bases are involved.

L5: Entry 1 of 30

File: USPT

Mar 23, 2004

US-PAT-NO: 6710022

DOCUMENT-IDENTIFIER: US 6710022 B1

TITLE: Tenside composition containing gemini tensides and co-amphiphiles and production and use thereof

DATE-ISSUED: March 23, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kwetkat; Klaus	Bergkamen			DE
Dahms; Gerd H.	Duisburg			DE

US-CL-CURRENT: [510/119](#); [510/130](#), [510/137](#), [510/138](#), [510/158](#), [510/159](#), [510/488](#), [510/499](#), [510/506](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KIMC	Draw D
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☐ 2. Document ID: US 6387395 B1

L5: Entry 2 of 30

File: USPT

May 14, 2002

US-PAT-NO: 6387395

DOCUMENT-IDENTIFIER: US 6387395 B1

TITLE: N-[1, (1-1) -dialkyloxy] - and N- [1, (1-1) -dialkenyloxy]- alk-1-yl-N,N,N-tetrasubstituted ammonium lipids and uses therefor

DATE-ISSUED: May 14, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Eppstein; Deborah A.	Palo Alto	CA	94303	
Felgner; Philip L.	Palo Alto	CA	94303	
Gadek; Thomas R.	Palo Alto	CA	94303	
Jones; Gordon H.	Palo Alto	CA	94303	
Roman; Richard B.	Palo Alto	CA	94303	

US-CL-CURRENT: 424/450

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 3. Document ID: US 6183774 B1

L5: Entry 3 of 30

File: USPT

Feb 6, 2001

US-PAT-NO: 6183774

DOCUMENT-IDENTIFIER: US 6183774 B1

TITLE: Stabilizing vitamin A derivatives by encapsulation in lipid vesicles formed with alkylammonium fatty acid salts

DATE-ISSUED: February 6, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Aust; Duncan T.	Ridge	NY		
Ross; Michael A.	Jericho	NY		
Wilmott; James M.	Shoreham	NY		
Hayward; James A.	Stony Brook	NY		

US-CL-CURRENT: 424/450; 264/4.1, 264/4.3, 424/401, 514/724, 514/725

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 4. Document ID: US 6177068 B1

L5: Entry 4 of 30

File: USPT

Jan 23, 2001

US-PAT-NO: 6177068

DOCUMENT-IDENTIFIER: US 6177068 B1

TITLE: Vinyl amide polymer delivery system for hair and skin treating compositions

DATE-ISSUED: January 23, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Shih; Jenn S.	Paramus	NJ		
Chuang; Jui-Chang	Wayne	NJ		
Plochocka; Krystyna	Scotch Plains	NJ		

US-CL-CURRENT: 424/70.17; 424/59, 424/70.12, 424/70.15, 424/70.9, 424/78.02,
526/263, 526/264, 526/307.1, 526/307.3

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 5. Document ID: US 6103272 A

L5: Entry 5 of 30

File: USPT

Aug 15, 2000

US-PAT-NO: 6103272

DOCUMENT-IDENTIFIER: US 6103272 A

TITLE: Compositions for stimulating hair growth, preventing hair loss, or minimizing hair loss, and methods for preparing and using same

DATE-ISSUED: August 15, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Keeney; Joseph A.	Huntington	TX	75949	

US-CL-CURRENT: 424/618; 424/630, 424/74

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw. De
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☐ 6. Document ID: US 6071535 A

L5: Entry 6 of 30

File: USPT

Jun 6, 2000

US-PAT-NO: 6071535

DOCUMENT-IDENTIFIER: US 6071535 A

TITLE: Lipid vesicles formed with alkylammonium fatty acid salts

DATE-ISSUED: June 6, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hayward; James A.	Stony Brook	NY		
Watkins; David C.	Port Jefferson	NY		
Aust; Duncan T.	Ridge	NY		

US-CL-CURRENT: 424/450; 264/4.1, 264/4.3, 424/401, 424/417, 424/70.1, 424/94.3, 514/880, 514/881

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw. De
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☐ 7. Document ID: US 5922758 A

L5: Entry 7 of 30

File: USPT

Jul 13, 1999

US-PAT-NO: 5922758

DOCUMENT-IDENTIFIER: US 5922758 A

TITLE: Methods and compositions employing 2,4-dienoic acid esters of tocopherols to prevent or reduce skin damage

DATE-ISSUED: July 13, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bissett; Donald L.	Hamilton	OH		

US-CL-CURRENT: 514/458

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KIMC	Draw. De
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☐ 8. Document ID: US 5877209 A

L5: Entry 8 of 30

File: USPT

Mar 2, 1999

US-PAT-NO: 5877209

DOCUMENT-IDENTIFIER: US 5877209 A

TITLE: Hair follicle protective formulations

DATE-ISSUED: March 2, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yunis; Adel A.	Miami	FL	33136	

US-CL-CURRENT: 514/458; 514/474, 514/717, 514/751

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KIMC	Draw. De
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☐ 9. Document ID: US 5767104 A

L5: Entry 9 of 30

File: USPT

Jun 16, 1998

US-PAT-NO: 5767104

DOCUMENT-IDENTIFIER: US 5767104 A

TITLE: Use of sulfated saccharides to treat baldness

DATE-ISSUED: June 16, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bar-Shalom; Daniel	DK-2980 Kokkedale			DK
Bukh; Niels	DK-2900 Hellerup			DK

US-CL-CURRENT: 514/53; 514/23, 514/25, 514/54

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KIMC	Draw. De
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☐ 10. Document ID: US 5750122 A

L5: Entry 10 of 30

File: USPT

May 12, 1998

US-PAT-NO: 5750122

DOCUMENT-IDENTIFIER: US 5750122 A

**** See image for Certificate of Correction ****

TITLE: Compositions for treating hair or skin

DATE-ISSUED: May 12, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Evans; Joel Franklin	Cincinnati	OH		
Cox; Bruce Russell	Kobe			JP
Dodd; Michael Thomas	Edgewood	KY		
Hopkins; Jeffrey Jon	West Chester	OH		

US-CL-CURRENT: 424/401, 424/47, 424/59, 424/70.1, 424/70.12, 424/70.17, 514/844, 514/846, 514/859, 514/937, 514/941

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 11. Document ID: US 5739156 A

L5: Entry 11 of 30

File: USPT

Apr 14, 1998

US-PAT-NO: 5739156

DOCUMENT-IDENTIFIER: US 5739156 A

TITLE: Methods of using 2,4-dienoic acid esters of tocopherols to reduce free radical damage in mammalian cells

DATE-ISSUED: April 14, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bissett; Donald Lynn	Hamilton	OH		

US-CL-CURRENT: 514/458

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 12. Document ID: US 5622712 A

L5: Entry 12 of 30

File: USPT

Apr 22, 1997

US-PAT-NO: 5622712

DOCUMENT-IDENTIFIER: US 5622712 A

TITLE: N-[.omega., (.omega.-1)-dialkyloxy]- and N-[.omega., (.omega.-1)-dialkenyloxy]-alk-1-yl-N, N, N-tetrasubstituted ammonium lipids and uses therefor

DATE-ISSUED: April 22, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Eppstein; Deborah A.	Menlo Park	CA		
Felgner; Philip L.	Los Altos	CA		
Gadek; Thomas R.	Oakland	CA		
Jones; Gordon H.	Cupertino	CA		
Roman; Richard B.	Fairhope	AL		

US-CL-CURRENT: 424/450; 264/4.1, 264/4.33, 264/4.6, 424/423, 424/427, 424/428, 424/449, 435/829

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 13. Document ID: US 5618798 A

L5: Entry 13 of 30

File: USPT

Apr 8, 1997

US-PAT-NO: 5618798

DOCUMENT-IDENTIFIER: US 5618798 A

**** See image for Certificate of Correction ****

TITLE: Use of sucralfate to treat baldness

DATE-ISSUED: April 8, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bar-Shalom; Daniel	DK-2980 Kokkedal			DK
Bukh; Niels	DK-2900 Hellerup			DK

US-CL-CURRENT: 514/53; 514/25, 514/54

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 14. Document ID: US 5565439 A

L5: Entry 14 of 30

File: USPT

Oct 15, 1996

US-PAT-NO: 5565439

DOCUMENT-IDENTIFIER: US 5565439 A

**** See image for Certificate of Correction ****

TITLE: Methods of using lysophosphatidic acid for treating hyperproliferative conditions

DATE-ISSUED: October 15, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Piazza; Gary A.	West Chester	OH		
Mazur; Adam W.	Cincinnati	OH		

US-CL-CURRENT: [514/110](#); [514/120](#), [514/859](#), [514/880](#), [558/231](#), [558/86](#), [560/264](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. D
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☐ 15. Document ID: US 5550289 A

L5: Entry 15 of 30

File: USPT

Aug 27, 1996

US-PAT-NO: 5550289

DOCUMENT-IDENTIFIER: US 5550289 A

TITLE: N-(1, (1-1)-dialkyloxy)-and N-(1, (1-1)-dialkenyloxy alk-1-yl-N,N,N-tetrasubstituted ammonium lipids and uses therefor

DATE-ISSUED: August 27, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Eppstein; Deborah A.	Menlo Park	CA		
Felgner; Philip L.	Los Altos	CA		
Gadek; Thomas R.	Oakland	CA		
Jones; Gordon H.	Cupertino	CA		
Roman; Richard B.	Fairhope	AL		

US-CL-CURRENT: [564/293](#); [264/4.1](#), [264/4.33](#), [264/4.6](#), [424/423](#), [424/427](#), [424/428](#), [424/449](#), [424/450](#), [435/829](#), [564/283](#), [564/285](#), [564/292](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. D
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☐ 16. Document ID: US 5545412 A

L5: Entry 16 of 30

File: USPT

Aug 13, 1996

US-PAT-NO: 5545412

DOCUMENT-IDENTIFIER: US 5545412 A

TITLE: N-[1, (1-1)-dialkyloxy]-and N-[1, (1-1)-dialkenyloxy]-alk-1-yl-n,n,n-tetrasubstituted ammonium lipids and uses therefor

DATE-ISSUED: August 13, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
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Eppstein; Deborah A.	Menlo Park	CA
Felgner; Philip L.	Los Altos	CA
Gadek; Thomas R.	Oakland	CA
Jones; Gordon H.	Cupertino	CA
Roman; Richard B.	Fairhope	AL

US-CL-CURRENT: [424/450](#); [264/4.1](#), [264/4.33](#), [264/4.6](#), [424/423](#), [424/427](#), [424/428](#),
[424/449](#), [435/829](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 17. Document ID: US 5523078 A

L5: Entry 17 of 30

File: USPT

Jun 4, 1996

US-PAT-NO: 5523078

DOCUMENT-IDENTIFIER: US 5523078 A

**** See image for Certificate of Correction ****

TITLE: Method of preparing and composition for treatment of hair and scalp

DATE-ISSUED: June 4, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Baylin; Michael E.	Pikesville	MD	21208	

US-CL-CURRENT: [424/70.1](#); [424/70.11](#), [424/70.16](#), [424/70.4](#), [424/78.02](#), [514/553](#),
[514/566](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 18. Document ID: US 5366737 A

L5: Entry 18 of 30

File: USPT

Nov 22, 1994

US-PAT-NO: 5366737

DOCUMENT-IDENTIFIER: US 5366737 A

TITLE: N-[.omega.,(.omega.-1)-dialkyloxy]- and N-[.omega.,(.omega.-1)-
dialkenyloxy]-alk-1-yl-N,N,N,-tetrasubstituted ammonium lipids and uses therefor

DATE-ISSUED: November 22, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Eppstein; Deborah A.	Menlo Park	CA		
Felgner; Philip L.	Los Altos	CA		
Gadek; Thomas R.	Oakland	CA		
Jones; Gordon H.	Cupertino	CA		

Roman; Richard B.

Fairhope

AL

US-CL-CURRENT: [424/450](#); [264/4.1](#), [264/4.33](#), [264/4.6](#), [424/423](#), [424/427](#), [424/428](#),
[424/449](#), [435/829](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. D.
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☐ 19. Document ID: US 5342611 A

L5: Entry 19 of 30

File: USPT

Aug 30, 1994

US-PAT-NO: 5342611

DOCUMENT-IDENTIFIER: US 5342611 A

**** See image for Certificate of Correction ****

TITLE: Hair cleansing composition

DATE-ISSUED: August 30, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Komori; Takashi	Sakura			JP
Eshita; Yoshiyuki	Chiba			JP
Ohtomo; Tsuyoshi	Minamisaitama			JP
Hirota; Hajime	Tokyo			JP

US-CL-CURRENT: [424/70.1](#); [424/70.12](#), [424/70.17](#), [424/70.22](#), [424/70.24](#), [424/70.27](#),
[424/70.28](#), [424/70.31](#), [510/122](#), [510/127](#), [510/467](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. D.
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☐ 20. Document ID: US 5211941 A

L5: Entry 20 of 30

File: USPT

May 18, 1993

US-PAT-NO: 5211941

DOCUMENT-IDENTIFIER: US 5211941 A

TITLE: Hair cleansing composition

DATE-ISSUED: May 18, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Komori; Takashi	Sakura			JP
Eshita; Yoshiyuki	Chiba			JP
Ohtomo; Tsuyoshi	Miyashiromachi			JP
Hirota; Hajime	Tokyo			JP

US-CL-CURRENT: [424/70.12](#); [424/70.21](#), [424/70.22](#), [424/70.23](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMIC	Draw. D
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☐ 21. Document ID: US 5208036 A

L5: Entry 21 of 30

File: USPT

May 4, 1993

US-PAT-NO: 5208036

DOCUMENT-IDENTIFIER: US 5208036 A

**** See image for Certificate of Correction ****

TITLE: N-(.omega., (.omega.-1)-dialkyloxy)- and N-(.omega., (.omega.-1)-
dialkenyloxy)-alk-1-yl-N,N,N-tetrasubstituted ammonium lipids and uses therefor

DATE-ISSUED: May 4, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Eppstein; Deborah A.	Menlo Park	CA		
Felgner; Philip L.	Los Altos	CA		
Gadek; Thomas R.	Oakland	CA		
Jones; Gordon H.	Cupertino	CA		
Roman; Richard B.	Fairhope	AL		

US-CL-CURRENT: 424/450; 264/4.1, 264/4.33, 264/4.6, 424/422, 424/423, 424/427,
424/428, 424/449, 435/829

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMIC	Draw. D
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☐ 22. Document ID: US 5156766 A

L5: Entry 22 of 30

File: USPT

Oct 20, 1992

US-PAT-NO: 5156766

DOCUMENT-IDENTIFIER: US 5156766 A

TITLE: Stabilized emulsion systems

DATE-ISSUED: October 20, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Behan; John M.	Kennington			GB3
Ness; Jeremy N.	Chartham			GB3
Perring; Keith D.	Ashford			GB3
Smith; William M.	Folkstone			GB3

US-CL-CURRENT: 516/54; 424/450, 510/104, 510/105, 510/159, 510/416, 516/73, 516/74,
516/900, 516/DIG.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 23. Document ID: US 5049386 A

L5: Entry 23 of 30

File: USPT

Sep 17, 1991

US-PAT-NO: 5049386

DOCUMENT-IDENTIFIER: US 5049386 A

TITLE: N-(.omega.,(.omega.-1)-dialkyloxy)- and N-(.omega.,(.omega.-1)-dialkenyloxy)
Alk-1-YL-N,N,N-tetrasubstituted ammonium lipids and uses therefor

DATE-ISSUED: September 17, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Eppstein; Deborah A.	Menlo Park	CA		
Felgner; Philip L.	Los Altos	CA		
Gadek; Thomas R.	Oakland	CA		
Jones; Gordon H.	Cupertino	CA		
Roman; Richard B.	Fairhope	AL		

US-CL-CURRENT: 424/427; 424/449

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 24. Document ID: US 4946787 A

L5: Entry 24 of 30

File: USPT

Aug 7, 1990

US-PAT-NO: 4946787

DOCUMENT-IDENTIFIER: US 4946787 A

TITLE: N-(.omega.,(.omega.-1)-dialkyloxy)- and N-(.omega.,(.omega.-1)-
dialkenyloxy)-alk-1-yl-N,N,N-tetrasubstituted ammonium lipids and uses therefor

DATE-ISSUED: August 7, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Eppstein; Deborah A.	Menlo Park	CA		
Felgner; Philip L.	Los Altos	CA		
Gadek; Thomas R.	Oakland	CA		
Jones; Gordon H.	Cupertino	CA		
Roman; Richard B.	Fairhope	AL		

US-CL-CURRENT: 264/4.1; 264/4.6, 424/450

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 25. Document ID: US 4897355 A

L5: Entry 25 of 30

File: USPT

Jan 30, 1990

US-PAT-NO: 4897355

DOCUMENT-IDENTIFIER: US 4897355 A

TITLE: N[.omega.,(.omega.-1)-dialkyloxy]- and N-[.omega.,(.omega.-1)-dialkenyloxy]-alk-1-yl-N,N,N-tetrasubstituted ammonium lipids and uses therefor

DATE-ISSUED: January 30, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Eppstein; Deborah A.	Menlo Park	CA		
Felgner; Philip L.	Los Altos	CA		
Gadek; Thomas R.	Oakland	CA		
Jones; Gordon H.	Cupertino	CA		
Roman; Richard B.	Fairhope	AL		

US-CL-CURRENT: [424/450](#); [424/93.21](#), [435/440](#), [435/458](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw D
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☐ 26. Document ID: WO 2004083219 A1

L5: Entry 26 of 30

File: DWPI

Sep 30, 2004

DERWENT-ACC-NO: 2004-718755

DERWENT-WEEK: 200470

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TITLE: New phospholipid derivative useful in drug delivery systems, ribosome or cosmetics such as milky lotion, lipstick, pack agent, shampoo, rinse, conditioner and hair tonic

INVENTOR: ITOH, C; KIKUCHI, H ; KUBO, K ; KUROSAWA, M ; OHHASHI, S ; SUZUKI, N ; YAMAUCHI, H ; YASUKOHCHI, T

PRIORITY-DATA: 2003JP-0077242 (March 20, 2003)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 2004083219 A1	September 30, 2004	J	039	C07F009/10

INT-CL (IPC): [A61 K 9/127](#); [A61 K 47/34](#); [B01 F 17/14](#); [B01 F 17/22](#); [B01 F 17/42](#); [C07 F 9/10](#); [C11 D 1/34](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw D
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☐ 27. Document ID: WO 9718283 A1, DE 69618665 E, FR 2740991 A1, EP 877785 A1, EP 877785 B1

L5: Entry 27 of 30

File: DWPI

May 22, 1997

DERWENT-ACC-NO: 1997-289262

DERWENT-WEEK: 200223

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TITLE: Extraction of plants to produce plant extracts, suitable for direct use in cosmetics - comprises using microwaves which is rapid and effective requiring use of little energy and giving extracts with little colour

INVENTOR: BOUSQUET, F

PRIORITY-DATA: 1995FR-0013504 (November 13, 1995)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>WO 9718283 A1</u>	May 22, 1997	F	010	C11B009/02
<u>DE 69618665 E</u>	February 28, 2002		000	C11B009/02
<u>FR 2740991 A1</u>	May 16, 1997		007	B01D011/02
<u>EP 877785 A1</u>	November 18, 1998	F	000	C11B009/02
<u>EP 877785 B1</u>	January 2, 2002	F	000	C11B009/02

INT-CL (IPC): A61 K 7/48; A61 K 35/78; B01 D 11/02; B01 J 19/12; C11 B 9/02

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMIC	Draw. D
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☐ 28. Document ID: WO 9523578 A1, ES 2163500 T3, AU 9518919 A, EP 748202 A1, US 5605704 A, JP 09509671 W, EP 748202 B1, DE 69522930 E

L5: Entry 28 of 30

File: DWPI

Sep 8, 1995

DERWENT-ACC-NO: 1995-320389

DERWENT-WEEK: 200225

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TITLE: Hair conditioner or hair treatment masque - contg. cationic liposome used to deposit an active ingredient on the hair

INVENTOR: FINEL, C M; HAGUE, J D ; REID, E S

PRIORITY-DATA: 1994EP-0301574 (March 4, 1994)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>WO 9523578 A1</u>	September 8, 1995	E	024	A61K007/00
<u>ES 2163500 T3</u>	February 1, 2002		000	A61K007/00
<u>AU 9518919 A</u>	September 18, 1995		000	A61K007/00
<u>EP 748202 A1</u>	December 18, 1996	E	000	A61K007/00
<u>US 5605704 A</u>	February 25, 1997		006	A61K009/127
<u>JP 09509671 W</u>	September 30, 1997		023	A61K007/06

EP 748202 B1 September 26, 2001 E 000 A61K007/00
DE 69522930 E October 31, 2001 000 A61K007/00

INT-CL (IPC): A61 K 7/00; A61 K 7/06; A61 K 9/127

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 29. Document ID: EP 466237 A, DE 69101474 E, EP 466237 B1, JP 04227047 A, US 5156766 A, ZA 9105405 A

L5: Entry 29 of 30

File: DWPI

Jan 15, 1992

DERWENT-ACC-NO: 1992-017861

DERWENT-WEEK: 199203

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TITLE: Stable opaque emulsions with liq. crystal structured - contg. nonionic emulsifiers and using perfumes as stabilisers, used as cosmetics, toiletries and household prods.

INVENTOR: BEHAN, J M; NESS, J N ; PERRING, K D ; SMITH, W M

PRIORITY-DATA: 1990EP-0307586 (July 11, 1990), 1991EP-0201646 (June 27, 1991)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 466237 A	January 15, 1992		000	
DE 69101474 E	April 28, 1994		000	A61K007/00
EP 466237 B1	March 23, 1994	E	018	A61K007/00
JP 04227047 A	August 17, 1992		008	B01J013/00
US 5156766 A	October 20, 1992		007	B01J013/00
ZA 9105405 A	March 31, 1993		022	B01J000/00

INT-CL (IPC): A61K 7/00; B01J 13/00; C11D 3/00

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 30. Document ID: EP 187702 A, US 6387395 B1, AU 8651853 A, JP 61161246 A, ZA 8600081 A, EP 187702 B, DE 3669503 G, CA 1288774 C, JP 94062517 B2, JP 07070011 A, JP 2546623 B2, BR 1100676 A3

L5: Entry 30 of 30

File: DWPI

Jul 16, 1986

DERWENT-ACC-NO: 1986-184601

DERWENT-WEEK: 200239

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TITLE: New quat. ammonium cpds. - cationic surfactants used partic. in prepn. of liposome(s)

INVENTOR: EPPSTEIN, D A; FELGNER, P L ; GADEK, T R ; JONES, G H ; ROMAN, R B

PRIORITY-DATA: 1987US-0114809 (October 29, 1987), 1985US-0689407 (January 7, 1985), 1986US-0877916 (June 24, 1986), 1989US-0428815 (October 27, 1989), 1990US-0524257 (May 15, 1990), 1990US-0614412 (November 16, 1990), 1993US-0015738 (February 10, 1993), 1994US-0237807 (May 5, 1994), 1994US-0348635 (December 2, 1994)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>EP 187702 A</u>	July 16, 1986	E	043	
<u>US 6387395 B1</u>	May 14, 2002		000	A61K009/127
<u>AU 8651853 A</u>	July 17, 1986		000	
<u>JP 61161246 A</u>	July 21, 1986		000	
<u>ZA 8600081 A</u>	July 6, 1987		000	
<u>EP 187702 B</u>	March 14, 1990	E	000	
<u>DE 3669503 G</u>	April 19, 1990		000	
<u>CA 1288774 C</u>	September 10, 1991		000	
<u>JP 94062517 B2</u>	August 17, 1994		019	C07C217/28
<u>JP 07070011 A</u>	March 14, 1995		017	C07C217/28
<u>JP 2546623 B2</u>	October 23, 1996		017	C07C217/28
<u>BR 1100676 A3</u>	November 4, 1997		000	C07C217/28

INT-CL (IPC): A61K 9/127; A61K 9/14; A61K 38/21; A61K 47/00; A61K 47/18; A61K 47/22; B01F 17/18; B01F 17/42; B01F 17/46 ; C07C 93/02; C07C 213/00; C07C 217/28; C07D 207/06; C07D 211/10; C07D 295/08; C07D 295/088; C07D 453/02; C07M 7/00; C11D 0/00; C12N 15/20; C12N 15/70; C12N 15/88

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw. D
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liposome same conditioner same hair

30

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DATE: Wednesday, January 26, 2005

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		<i>DB=USPT,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>	
<input type="checkbox"/>	L5	liposome same conditioner same hair	30
<input type="checkbox"/>	L4	liposome same conditioning same hair	7
<input type="checkbox"/>	L3	liposome same condition\$ same hair	63
<input type="checkbox"/>	L2	L1 and hair	340
<input type="checkbox"/>	L1	liposome same condition\$	3103

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DATE: Wednesday, January 26, 2005

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		<i>DB=USPT,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>	
<input type="checkbox"/>	L6	liposome same pvp same hair	0
<input type="checkbox"/>	L5	liposome same conditioner same hair	30
<input type="checkbox"/>	L4	liposome same conditioning same hair	7
<input type="checkbox"/>	L3	liposome same condition\$ same hair	63
<input type="checkbox"/>	L2	L1 and hair	340
<input type="checkbox"/>	L1	liposome same condition\$	3103

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DATE: Wednesday, January 26, 2005

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<input type="checkbox"/>	L6	L1 and (conditioning)	1
<input type="checkbox"/>	L5	L2 and (conditioning)	173
<input type="checkbox"/>	L4	L1 and polymer	0
<input type="checkbox"/>	L3	L2 and hair	284
<input type="checkbox"/>	L2	parsol adj1 mcx	508
<input type="checkbox"/>	L1	octipirox	2

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L2: Entry 1 of 6

File: USPT

Aug 18, 1992

DOCUMENT-IDENTIFIER: US 5139770 A

TITLE: Cosmetic compositions containing strongly swellable, moderately crosslinked polyvinylpyrrolidone

Brief Summary Text (9):

Another object of the invention is to provide cosmetic compositions containing strongly swellable, moderately crosslinked polyvinylpyrrolidone polymers which have excellent hair conditioning and thickening properties when incorporated into a shampoo and having high compatibility with components of hair and skin treating formulations.

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L2: Entry 2 of 6

File: USPT

Apr 4, 1989

DOCUMENT-IDENTIFIER: US 4818523 A

TITLE: Hair rinse conditioner

Detailed Description Text (21):The presence of the PVP/VA provides extra body to the hair conditioner.[Previous Doc](#)[Next Doc](#)[Go to Doc#](#)

[First Hit](#) [Fwd Refs](#)[Previous Doc](#)[Next Doc](#)[Go to Doc#](#)

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L2: Entry 5 of 6

File: USPT

Sep 9, 1975

DOCUMENT-IDENTIFIER: US 3904749 A

TITLE: Hair setting preparations

Brief Summary Text (6):

As indicated, there have been a number of resinous film formers proposed by the prior art which ostensibly possess to one degree or another the properties attributable to a commercially acceptable hair conditioner. The current wide-spread usage, however, of polyvinylpyrrolidone and copolymers thereof in commercial hair conditioning preparations reasonably attests to their representing the present state of this art. Notwithstanding that the polyvinylpyrrolidone type film former has to date enjoyed such universal acceptance, there are certain attendant properties thereof which desirably could be subject to improvement. For one, the polyvinylpyrrolidones are not sufficiently substantive to a hair substrate so as to allow such polymers to be employed in shampoos, dye rinses, and similar hair treating applications to provide improved combout properties.

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L2: Entry 1 of 6

File: USPT

Aug 18, 1992

US-PAT-NO: 5139770

DOCUMENT-IDENTIFIER: US 5139770 A

TITLE: Cosmetic compositions containing strongly swellable, moderately crosslinked polyvinylpyrrolidone

DATE-ISSUED: August 18, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Shih; Jenn S.	Paramus	NJ		
Chuang; Jui-Chang	Wayne	NJ		
Smith; Terry E.	Morristown	NJ		
Bires; Carmen D.	Hackettstown	NJ		
Helioff; Michael W.	Westfield	NJ		
Login; Robert B.	Oakland	NJ		

US-CL-CURRENT: 424/59; 424/401, 424/489, 424/70.15, 424/70.24, 424/73, 514/847,
514/881, 526/258, 526/264

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw. D
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☐ 2. Document ID: US 4818523 A

L2: Entry 2 of 6

File: USPT

Apr 4, 1989

US-PAT-NO: 4818523

DOCUMENT-IDENTIFIER: US 4818523 A

TITLE: Hair rinse conditioner

DATE-ISSUED: April 4, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Clarke; Jane	Matawan	NJ		
Patel; Amrit	Dayton	NJ		

Robbins; Clarence R. Martinsville NJ

US-CL-CURRENT: 424/70.12; 424/70.28

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 3. Document ID: US 4521404 A

L2: Entry 3 of 6

File: USPT

Jun 4, 1985

US-PAT-NO: 4521404

DOCUMENT-IDENTIFIER: US 4521404 A

TITLE: Polymeric hair preparation

DATE-ISSUED: June 4, 1985

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lorenz; Donald H.	Basking Ridge	NJ		
Murphy; Edward J.	Wayne	NJ		
Rutherford, Jr.; John M.	Kinnelon	NJ		

US-CL-CURRENT: 424/70.15; 424/47, 424/70.16, 424/70.17, 526/264

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 4. Document ID: US 4342744 A

L2: Entry 4 of 6

File: USPT

Aug 3, 1982

US-PAT-NO: 4342744

DOCUMENT-IDENTIFIER: US 4342744 A

TITLE: Hair treatment products

DATE-ISSUED: August 3, 1982

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Arai; Masaaki	Tocorozawa			JP
Ohba; Masami	Funabashi			JP
Ricketts; Guy A. G.	Tokyo			JP
Steer; Jean A.	Weybridge			GB2

US-CL-CURRENT: 424/70.15; 424/70.23

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 5. Document ID: US 3904749 A

L2: Entry 5 of 6

File: USPT

Sep 9, 1975

US-PAT-NO: 3904749

DOCUMENT-IDENTIFIER: US 3904749 A

TITLE: Hair setting preparations

DATE-ISSUED: September 9, 1975

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
McKillip; William J.	Worthington	OH		

US-CL-CURRENT: 424/70.17

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstracts	Abstracts	Claims	KWC	Draw. De
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☐ 6. Document ID: US 5206385 A, AU 9334413 A, WO 9315017 A1

L2: Entry 6 of 6

File: DWPI

Apr 27, 1993

DERWENT-ACC-NO: 1993-151796

DERWENT-WEEK: 199318

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TITLE: Urea! hydrogen peroxide-polyvinyl pyrrolidone free-flowing powder - stabilised against decomposition in water and alcohol solvents

INVENTOR: BISS, R B; GARELICK, P ; LOGIN, R B ; MERIANOS, J J

PRIORITY-DATA: 1992US-0908107 (July 2, 1992), 1992US-0825359 (January 24, 1992)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>US 5206385 A</u>	April 27, 1993		004	C07D403/14
<u>AU 9334413 A</u>	September 1, 1993		000	C01B015/01
<u>WO 9315017 A1</u>	August 5, 1993	E	007	C01B015/01

INT-CL (IPC): C01B 15/01; C07D 403/14

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstracts	Abstracts	Claims	KWC	Draw. De
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Terms

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(polyvinylpyrrolidone or pvp) adj5 (hair adj3 condition\$)

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L6: Entry 6 of 9

File: USPT

Aug 3, 1976

DOCUMENT-IDENTIFIER: US 3972336 A

TITLE: Hair fixatives based on sulfonated styrene polymers

Brief Summary Text (5):

Natural gums, such as quince-seed and karaya gums, have been used as fixatives in hair setting lotions, but because of the disadvantages associated with such gums, e.g., variability from lot to lot, they have been generally replaced by synthetic film-forming materials. Thus, polyvinyl alcohol, polyvinylpyrrolidone, cellulose ethers such as methyl cellulose, and copolymers of vinyl-pyrrolidone and vinyl acetate, have been used as fixatives in hair setting lotions and gels.

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L9: Entry 4 of 5

File: USPT

Feb 23, 1999

DOCUMENT-IDENTIFIER: US 5874105 A

TITLE: Lipid vesicles formed with alkylammonium fatty acid salts

Abstract Text (1):

A liposome for use in encapsulating both hydrophobic and hydrophilic substances (i.e., a "payload"), is disclosed which is capable of delivering their load upon the occurrence of a trigger or control condition. The liposomes are formed to stably encapsulate a particular active agent to form a delivery vehicle for the agent. The liposomes of the delivery vehicle are stable in a particular environment but become unstable or permeable if passed from the stable environment (e.g., characteristic of a particular pH and/or temperature and/or ionic strength) to a changed or unstable environment, thereby delivering their payload.

Brief Summary Text (2):

The present invention relates to the production of lipid vesicles (liposomes) and, more particularly, to the production of liposomes from long chain alkylammonium fatty acid salts.

Brief Summary Text (3):

Liposome formation is a natural result of the amphipathic nature of the molecules of which they are comprised. Amphipathic molecules are those molecules with distinct regions of the molecule having hydrophilic character and distinct regions of the same molecule having hydrophobic character. When dispersed in water, amphipathic molecules form three types of macro-molecular structure: micelles, hexagonal phase and lipid bilayers. The exact macro-molecular structure which is formed depends on the relative sizes of the hydrophilic and hydrophobic regions of the molecule.

Brief Summary Text (6):

For molecules in which the cross sectional area of the hydrophilic region of the molecule is slightly less than, or equal to, that of the hydrophobic part of the molecule, such as many phospholipids, the formation of bilayers is favored, e.g., dipalmitoylphosphatidylcholine (DPPC). Phospholipids are an amphipathic type of lipid which contain phosphate, that is, molecules containing one phosphate, a glycerol and one or more fatty acids. FIG. 3 is a simplified representation of a phospholipid molecule 6, including a hydrophilic head 8 (i.e., the phosphate and glycerol) and a hydrophobic tail 10 (i.e., the one or more fatty acids). FIG. 4 is a representation of a phospholipid bilayer 12, where the hydrophobic regions 14 of the phospholipid molecules are caused to turn inward due to the aqueous environment, and the hydrophilic portions 16 face outward. These bilayers are two dimensional sheets in which all of the hydrophobic portions, e.g., acyl side chains, are shielded from interaction with water except those at the ends of the sheet. An energetically unfavorable interaction of the acyl chains with water results in the folding of the bilayers to form three-dimensional, vesicles. These vesicles are referred to as "liposomes".

Brief Summary Text (7):

Liposomes may be formed as a single bilayer enclosing a single aqueous space (small unilamellar vesicles; SUVs) or may be composed of concentric bilayers with many aqueous spaces alternating with the bilayers (multilamellar vesicles; MLVs).

Liposomes can be used to encapsulate both hydrophobic and hydrophilic materials. Hydrophobic payloads are typically partitioned within the bilayers whereas hydrophilic payloads are typically trapped within the aqueous compartments. The advantages of using liposomes as a carrier/encapsulation system is that they are stable and can protect their payload from degradation, e.g., by oxygen, digestive enzymes, etc.

Brief Summary Text (8):

For example, U.S. Pat. No. 3,957,971, issued May 15, 1976, discloses liposome-formed moisturizing units which are capable of moisturizing and improving flexibility, plasticity, and softness of keratinous matter, particularly mammalian skin. The liposomes within which the moisturizer is stored include a matrix of a ternary lipid mixture of lecithin, dicetyl phosphate, and a sterol, and include cavities disposed within the liposome. The cavities (lamellar space) contain an humectant, such as sodium pyroglutamate, in an aqueous medium. Moisturizing liposomes are also disclosed therein which function osmotically, serving as traps for water, which may be shared with the keratin constituents as required.

Brief Summary Text (9):

Liposomes also may be used for the timed delivery of a wide variety of materials including pharmaceuticals, cosmetics and nutrients. For example, U.S. Pat. No. 4,016,100, issued Apr. 5, 1977, discloses a method of producing a pharmaceutical composition comprised of an aqueous suspension of an active agent entrapped in a spherule of a phospholipid (liposome). The composition, or drug delivery vehicle, is prepared by dispersing a phospholipid uniformly in water to give an aqueous phospholipid dispersion, adding a medicament to the aqueous dispersion and freezing the thus-obtained aqueous dispersion to entrap the medicament in lipid spherules formed. The frozen dispersion is then thawed to realize an aqueous suspension of spherules having diameters of less than 5.0 microns. The timed release of an active agent is directly related to the amount of active agent trapped in the liposomes. The greater the amount of active agent, the longer the release process lasts.

Brief Summary Text (10):

A goal of the liposome research has been the development of a liposomal delivery system that would deliver its payload not over time as in the '100 patent mentioned above, but on cue, i.e., a controlled release, for example, in a mammalian body. For example, a delivery system that delivers its payload when applied to the skin or when arriving at a tumor. A bulk of the research has been based on admixtures of liposomes and other biological macromolecules such as antibodies and lecithins. Various degrees of success have been achieved with these systems but none have produced a liposome that will release its payload, or not, depending on the prevailing conditions. The invention described herein is just such a liposome: the degree of payload encapsulation may be altered by changes in pH and/or ionic strength of the surrounding medium thereby realizing a triggered delivery system in a form of a liposome.

Brief Summary Text (12):

It is therefore an object of the present invention to provide a lipid vesicle, or liposome, and method for manufacturing same, which overcomes the limitations of the prior art.

Brief Summary Text (13):

It is another object of the present invention to provide a liposome and method for manufacturing same which includes a controlled load delivery ability.

Brief Summary Text (14):

It is another object of the present invention to provide a liposome that is formed with an acyl N.sub.n, N.sub.n -dimethyl-1 diamino alkyl (ADDA) molecule, and method for manufacturing same.

Brief Summary Text (15):

It is another object of the present invention to provide a liposome which delivers its entrapped load at the occu

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L9: Entry 5 of 5

File: USPT

May 12, 1998

DOCUMENT-IDENTIFIER: US 5750122 A

**** See image for Certificate of Correction ****

TITLE: Compositions for treating hair or skin

Brief Summary Text (40):

The topical compositions useful in the subject invention can be made into a wide variety of product types. These include, but are not limited to, leave-on hair conditioners, rinse-off hair conditioners, shampoos, hair mousses, hair sprays, hair tonics, hair gels, skin lotions, skin creams, skin gels, skin mousses, antiperspirant sprays and sticks, skin ointments, soaps, shower gels, powders, and a wide variety of cosmetics, i.e. lipsticks, foundations, eye shadows, make-ups, and the like. These product types can comprise several types of carrier systems including, but not limited to solutions, emulsions, gels, solids, and liposomes. Also useful are cleansing compositions which also deliver the components of the present invention to the skin during the cleansing process.

Brief Summary Text (68):

Preferably the silicone hair conditioning agent comprises a mixture of a polydimethylsiloxane gum, having a viscosity greater than about 1,000,000 centistokes and polydimethylsiloxane fluid having a viscosity of from about 10 centistokes to about 100,000 centistokes, wherein the ratio of gum to fluid is from about 30:70 to about 70:30, preferably from about 40:60 to about 60:40. The polydimethylsiloxane gum/polydimethylsiloxane fluid can be used alone or in a suitable carrier such as polysorbate 80.

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L11: Entry 101 of 220

File: USPT

May 19, 1998

DOCUMENT-IDENTIFIER: US 5753216 A

TITLE: Hair care compositions having styling/conditioning agent and plasticizer

Brief Summary Text (194):

The efficacy of nonvolatile silicone hair conditioning agents can be enhanced through the use of silicone resins which are mixable with the silicone hair conditioning agent. Silicone resins are highly crosslinked polymeric siloxane systems. The crosslinking is introduced through the incorporation of trifunctional and tetrafunctional silanes with monofunctional or difunctional, or both, monomer units during manufacture of the silicone resin. As is well understood in the art, the degree of crosslinking that is required in order to result in a silicone resin will vary according to the specific silane units incorporated into the silicone resin. In general, silicone materials which have a sufficient level of trifunctional and tetrafunctional siloxane monomer units (and hence, a sufficient level of trifunctional and tetrafunctional siloxane monomer units (and hence, a sufficient level of crosslinking) such that they dry down to a rigid, or hard, film are considered to be silicone resins. The ratio of oxygen atoms to silicon atoms is indicative of the level of crosslinking in a particular silicone material. Silicone resins will generally have at least about 1.1 oxygen atoms per silicon atom. Preferably, the ratio of oxygen:silicon atoms is at least about 1.2:1.0. Typical silanes used in the manufacture of silicone resins are monomethyl-, dimethyl-, monophenyl-, diphenyl-, methylphenyl-, monovinyl-, and methylvinyl-chlorosilanes, and tetrachlorosilane. Preferred resins are the methyl substituted silicone resins, such as those offered by General Electric as GE SS4230 and SS4267. Commercially available silicone resins will generally be supplied in an unhardened form in a low viscosity volatile or nonvolatile silicone fluid. The silicone resins for use herein should be supplied and incorporated into the present compositions in such non-hardened form rather than as a hardened resin, as will be readily apparent to those skilled in the art.

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L11: Entry 110 of 220

File: USPT

Oct 7, 1997

DOCUMENT-IDENTIFIER: US 5674478 A

**** See image for Certificate of Correction ****

TITLE: Hair conditioning compositions

Brief Summary Text (68):

The silicone hair conditioning agent will be used in the leave-on hair care compositions of the present invention at levels of from about 0.05% to about 10% by weight of the composition, preferably from about 0.1% to about 6%, more preferably from about 0.5% to about 5%, most preferably from about 0.5% to about 3%.

Brief Summary Text (70):

Preferred, however, are insoluble silicones. The insoluble silicone hair conditioning agent for use herein will preferably have viscosity of from about 1,000 to about 2,000,000 centistokes at 25.degree. C., more preferably from about 10,000 to about 1,800,000, even more preferably from about 100,000 to about 1,500,000. The viscosity can be measured by means of a glass capillary viscometer as set forth in Dow Corning Corporate Test Method CTM0004, Jul. 20, 1970.

Brief Summary Text (71):

Suitable insoluble, nonvolatile silicone fluids include polyalkyl siloxanes, polyaryl siloxanes, polyalkylaryl siloxanes, polyether siloxane copolymers, and mixtures thereof. Other insoluble, nonvolatile silicone fluids having hair conditioning properties can also be used. The term "silicone fluid" shall mean flowable silicone materials having a viscosity of less than 1,000,000 centistokes at 25.degree. C. Generally, the viscosity of the fluid will be between about 5 and 1,000,000 centistokes at 25.degree. C., preferably between about 10 and about 300,000.

Brief Summary Text (80):

Another silicone hair conditioning material that can be especially useful in the silicone conditioning agents is insoluble silicone gum. The term "silicone gum", as used herein, means polyorganosiloxane materials having a viscosity at 25.degree. C. of greater than or equal to 1,000,000 centistokes. Silicone gums are described by Petrarch and others including U.S. Pat. No. 4,152,416, Spitzer et al., issued May 1, 1979 and Noll, Walter, Chemistry and Technology of Silicones, New York: Academic Press 1968. The "silicone gums" will typically have a mass molecular weight in excess of about 200,000, generally between about 200,000 and about 1,000,000. Specific examples include polydimethylsiloxane, (polydimethylsiloxane) (methylvinylsiloxane) copolymer, poly(dimethylsiloxane) (diphenyl siloxane) (methylvinylsiloxane) copolymer and mixtures thereof.

Brief Summary Text (81):

Preferably the silicone hair conditioning agent comprises a mixture of a polydimethylsiloxane gum, having a viscosity greater than about 1,000,000 centistokes and polydimethylsiloxane fluid having a viscosity of from about 10 centistokes to about 100,000 centistokes, wherein the ratio of gum to fluid is from about 30:70 to about 70:30, preferably from about 40:60 to about 60:40. The gum fluid blend can be used alone or in a premix with a suitable carrier such as polysorbate 80.

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L11: Entry 111 of 220

File: USPT

Sep 9, 1997

DOCUMENT-IDENTIFIER: US 5665267 A

TITLE: Shampoo compositions and suspending agent therefor

Brief Summary Text (13):

In particular, Oh et al., in U.S. Pat. No. 4,704,272, disclose shampoo compositions including an anionic surfactant, a nonvolatile silicone, a hair conditioning agent and a suspending agent. The hair conditioning agent can be a tri-long chain (C.sub.8 -C.sub.22) amine, such as tri (isodecyl)amine or tri-C.sub.13 amine. Oh et al. also teach that a suspending agent, like a xanthan gum or a long chain acyl derivative, is essential to the composition. Surprisingly, it has been found that a primary, secondary or tertiary amine including at least one carbon chain having at least 16 carbon atoms, and neutralized with a suitable acid, provides a stable shampoo composition that effectively resists separation of the water-insoluble hair-treating compound from the shampoo composition without the need for a separate suspending agent.

Detailed Description Text (20):

In addition to nonvolatile hydrocarbon conditioning compounds, a volatile hydrocarbon conditioning compound can be included in the composition as the water-insoluble hair treating compound, either alone or in conjunction with other water-insoluble hair treating compounds. The volatile hydrocarbon conditioner, such as a hydrocarbon including about 10 carbon atoms to about 26 carbon atoms, has sufficient volatility to slowly volatilize from the hair to preclude a residual buildup of hydrocarbon on dry hair. The volatile hydrocarbon provides essentially the same benefits as the volatile silicone, such as lubrication and wet hair conditioning.

Detailed Description Text (64):

To further demonstrate the ability of the suspending agent to provide a stable hair shampoo composition including a water-insoluble hair-treating compound, the following compositions of Examples 73 through 76 were prepared by the above-described method. The compositions of Examples 73 through 76 each include a water-insoluble antidandruff compound; the compositions of Examples 74 and 76 further include a water-insoluble silicone blend as a hair conditioner. Each composition of Examples 73 through 76 resisted phase separation and effectively delivered the water-insoluble hair treating compound, or compounds, to hair shampooed with the composition.

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L5: Entry 1 of 1

File: USPT

Jul 12, 1994

DOCUMENT-IDENTIFIER: US 5328628 A

**** See image for Certificate of Correction ****

TITLE: Detergent compositions containing liposomes and process therefor

Abstract Text (1):

This invention relates to a method of stabilizing liposomes contained in aqueous compositions against lysis by anionic surfactants otherwise known to disrupt and lyse such liposomes by using certain surfactants as stabilizing agents and to the stabilized compositions obtained thereby as well as to a method of making detergent compositions containing such stabilized liposomes and anionic surfactants as well as to the compositions themselves. The compositions can be used as shower gels and shampoos. The liposomes are preferably vesicles derived from natural phospholipids or from synthetic nonionic amphiphilic compounds which are sometimes referred to as "niosomes" and may contain water soluble humectants or vitamins. From about 0.1% to 40%, and more preferably, from 2% to 10%, by weight of at least one surfactant such as fatty alkyl sulfosuccinates (fatty alkyl group contains from 8 to 22 carbons atoms), fatty acylamino polyglycol ether sulfates (fatty acyl group contains from 8 to 22 carbon atoms), fatty alkyl amine oxides (fatty alkyl group contains from 7 to 26 carbon atoms), fatty alkyl phosphate esters (fatty alkyl group contains from 8 to 22 carbon atoms), and N-acyl amino acid salts or salts of N-acyl derivatives of hydrolyzed proteins of up to about 2,500 daltons in weight average molecular weight (acyl portion is derived from a carboxylic acid having from 8 to 22 carbon atoms) is added to an aqueous composition containing from about 0.1% to 50%, and more preferably from 5% to 30%, by volume of liposomes to produce a stabilized liposome suspension. Such stabilized liposome suspensions can then be included in a detergent formulation containing from about 0.1 to 35%, and more preferably from 5% to 15%, by weight of at least one anionic surfactant which is known to lyse liposomes such as sodium lauryl sulfate or sodium laureth-2 sulfate.

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L7: Entry 50 of 64

File: USPT

Jul 1, 1997

DOCUMENT-IDENTIFIER: US 5643600 A

TITLE: Lipid vesicles containing avocado oil unsaponifiables

Brief Summary Text (6):

For these reasons, there is increasing interest in liposomes made of commercially available nonphospholipid amphiphiles (see, e.g., U.S. Pat. No. 4,217,344, U.S. Pat. No. 4,917,951, and U.S. Pat. No. 4,911,928). These molecules have a hydrophilic "head" group attached to a hydrophobic "tail" and are derived from long chain fatty acids, long chain alcohols and their derivatives, long chain amines, and polyol sphingo- and glycerolipids. Commercially available amphiphile surfactants include, for example, the BRIJ family of polyoxyethylene fatty ethers, the SPAN sorbitan fatty acid esters, the TWEEN ethoxylated sorbitan fatty acid esters, glyceryl monostearate, glyceryl distearate, and glyceryl dilaurate, all available from ICI Americas, Inc. of Wilmington, Del.

Brief Summary Text (16):

In a preferred embodiment, the primary non-phospholipid amphiphile is selected from the group consisting of polyoxyethylene fatty esters, polyoxyethylene fatty acid ethers, diethanolamides, long chain acyl hexosamides, long chain acyl amino acid amides, long chain acyl amides, polyoxyethylene derivatives of fatty acid esters having 10-20 oxyethylene groups, polyoxyethylene 20 sorbitan mono- or trioleate, polyoxyethylene glyceryl monostearate with 1-10 oxyethylene groups, and glycerol monostearate. In another preferred embodiment, the bilayers further contain a phospholipid, a glycolipid, and mixtures thereof

Brief Summary Text (18):

In still another preferred embodiment, the bilayers contain both a primary non-phospholipid amphiphile selected from the group consisting of C.sub.12 -C.sub.18 fatty alcohols, C.sub.12 -C.sub.18 glycol monoesters, C.sub.12 -C.sub.18 glyceryl mono- and diesters, propylene glycol stearate, sucrose distearate, and mixtures thereof; and a second non-phospholipid amphiphile selected from the group consisting of quaternary dimethyldiacyl amines, polyoxyethylene acyl alcohols, sorbitan fatty acid esters, polyoxyethylene derivatives of sorbitan fatty acids and their salts, and mixtures thereof.

Embodiment Text (10):

Samples A-C were designed to form oil-filled paucilamellar bilayers. The primary structural components of the lipid bilayers are selected from the group consisting of glyceryl dilaurate, glyceryl distearate, and phytosterol from avocado oil (Croda Inc., Parsippany, N.J.). Samples B and C also contain a spacer molecule, consisting of polyoxyethylene 20 sorbitan monostearate) or Brij 76.

Paucilamellar lipid vesicles were formed using avocado oil (from Croda Inc., Parsippany, N.J.) along with a polyoxyethylene of either polyoxyethylene 2 cetyl ether (Brij 52) or polyoxyethylene 20 sorbitan monostearate (POE 9 GMS). For Samples B and C, phosphate

buffer saline (PBS) was used instead of water as the hydrating agent.

Detailed Description Text (38):

In this Example lipid vesicles for use in hair conditioners were formed. The primary amphiphile making up the lipid bilayers consisted of glyceryl distearate in Sample A and polyoxyethylene (8) stearate in Sample B. Stearyl alcohol was added as a secondary amphiphile. The lipid bilayers also contained phytosterol from avocado oil unsaponifiabiles (supplied by Croda Inc., Parsippany, N.J.). Distearyltrimonium chloride was used as a positive charge producing agent.

Detailed Description Text (42):

This Example shows that avocado oil unsaponifiabiles, which acts both as a structural component of lipid vesicles by supplying phytosterol to the lipid walls, as well as a moisturizing agent by supplying triglycerides to the central cavity can be used along with amphiphiles which also have cosmetic (e.g., moisturizing) properties, such as glyceryl distearate and polyoxyethylene 8 stearate, to form good lipid vesicles suitable for use in cosmetics. Other useful materials (i.e., emulsifiers and preservatives) can also be added to the aqueous portion of the lipid vesicles, such as sodium laurel sulfate (30%) and methyltribromo glutaronitrile phenoxymethanol polyquaternium 7.

Detailed Description Paragraph Table (2):

TABLE 2		Vesicle Components (grams) A B C		
	Brij 76	1.6	<u>Glyceryl</u> Dilaurate	3.0 <u>Glyceryl</u>
Monostearate	2.55	<u>Glyceryl</u> Distearate	2.0	Polysorbate 60
Unsaponifiabiles*	3.0	4.0	4.0	Water 30.0 35.0 40.0
*1 gram of Avocado Oil Unsaponifiabiles contains approximately 0.3 grams of phytosterol.				

Detailed Description Paragraph Table (5):

TABLE 5		(% by weight) A B		
	Lipid Phase	1.5	0.5	Stearyl Alcohol 2.0
<u>Glyceryl</u> Distearate	1.7	Polyoxyethylene (8) Stearate	3.33	1.0
Unsaponifiabiles*	2.5	2.5	Distearyltrimonium Chloride	Aqueous Phase 0.5 0.5
Laurel Sulfate 30%	0.1	0.1	Methyltribromo Glutaronitrile	Phenoxymethanol
Polyquaternium 7	0.1	2.0	Cetyl Trimethyl Ammonium Chloride	88.0 91.7
Water				Deionized
*1 gram of Avocado Oil Unsaponifiabiles contains approximately 0.3 gm of phytosterol				

Other Reference Publication (10):

Handjani-Villa, "Les Niosomes" (1985) (no translation).

CLAIMS:

5. The paucilamellar lipid vesicle of claim 1, wherein said primary non-phospholipid amphiphile is selected from the group consisting of C.sub.12 -C.sub.18 fatty alcohols, C.sub.12 -C.sub.18 glycol monoesters, C.sub.12 -C.sub.18 glyceryl mono- and diesters, propylene glycol stearate, sucrose distearate, and mixtures thereof; and wherein said bilayers further comprise a second non-phospholipid amphiphile selected from the group consisting of quaternary dimethyldiacyl amines, polyoxyethylene acyl alcohols, polyglycerols, sorbitan fatty acid esters, polyoxyethylene derivatives of sorbitan fatty acid esters, fatty acids and their salts, and mixtures thereof.

6. The paucilamellar lipid vesicle of claim 5, wherein said primary non-phospholipid amphiphile is selected from the group consisting of C16-C18 fatty alcohols, glycol stearate, glyceryl mono- and distearate, glyceryl dilaurate, and mixtures thereof.

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L12: Entry 28 of 41

File: USPT

Oct 7, 1997

DOCUMENT-IDENTIFIER: US 5674478 A

**** See image for Certificate of Correction ****

TITLE: Hair conditioning compositions

Brief Summary Text (68):

The silicone hair conditioning agent will be used in the leave-on hair care compositions of the present invention at levels of from about 0.05% to about 10% by weight of the composition, preferably from about 0.1% to about 6%, more preferably from about 0.5% to about 5%, most preferably from about 0.5% to about 3%.

Brief Summary Text (70):

Preferred, however, are insoluble silicones. The insoluble silicone hair conditioning agent for use herein will preferably have viscosity of from about 1,000 to about 2,000,000 centistokes at 25.degree. C., more preferably from about 10,000 to about 1,800,000, even more preferably from about 100,000 to about 1,500,000. The viscosity can be measured by means of a glass capillary viscometer as set forth in Dow Corning Corporate Test Method CTM0004, Jul. 20, 1970.

Brief Summary Text (71):

Suitable insoluble, nonvolatile silicone fluids include polyalkyl siloxanes, polyaryl siloxanes, polyalkylaryl siloxanes, polyether siloxane copolymers, and mixtures thereof. Other insoluble, nonvolatile silicone fluids having hair conditioning properties can also be used. The term "silicone fluid" shall mean flowable silicone materials having a viscosity of less than 1,000,000 centistokes at 25.degree. C. Generally, the viscosity of the fluid will be between about 5 and 1,000,000 centistokes at 25.degree. C., preferably between about 10 and about 300,000.

Brief Summary Text (80):

Another silicone hair conditioning material that can be especially useful in the silicone conditioning agents is insoluble silicone gum. The term "silicone gum", as used herein, means polyorganosiloxane materials having a viscosity at 25.degree. C. of greater than or equal to 1,000,000 centistokes. Silicone gums are described by Petrarch and others including U.S. Pat. No. 4,152,416, Spitzer et al., issued May 1, 1979 and Noll, Walter, Chemistry and Technology of Silicones, New York: Academic Press 1968. The "silicone gums" will typically have a mass molecular weight in excess of about 200,000, generally between about 200,000 and about 1,000,000. Specific examples include polydimethylsiloxane, (polydimethylsiloxane) (methylvinylsiloxane) copolymer, poly(dimethylsiloxane) (diphenyl siloxane) (methylvinylsiloxane) copolymer and mixtures thereof.

Brief Summary Text (81):

Preferably the silicone hair conditioning agent comprises a mixture of a polydimethylsiloxane gum, having a viscosity greater than about 1,000,000 centistokes and polydimethylsiloxane fluid having a viscosity of from about 10 centistokes to about 100,000 centistokes, wherein the ratio of gum to fluid is from about 30:70 to about 70:30, preferably from about 40:60 to about 60:40. The gum fluid blend can be used alone or in a premix with a suitable carrier such as polysorbate 80.

Brief Summary Text (88):

Another optional ingredient of the hair care compositions of the present invention is hair styling resins. Any hair hold polymer soluble or dispersible in the polar solvent phase of the present invention may be used. Suitable types of polymers include anionic, non-ionic, amphoteric and cationic polymer materials. Specific polymers include polyvinylpyrrolidone (PVP), copolymers of PVP and methylmethacrylate, copolymers of PVP and vinylacetate (VA), polyvinyl alcohol (PVA), copolymers of PVA and crotonic acid, copolymers of PVA and maleic anhydride, hydroxypropyl cellulose, hydroxypropyl guar gum, sodium polystyrene sulfonate, PVP/ethylmethacrylate/methacrylic acid terpolymer, vinyl acetate/crotonic acid/vinyl neodecanoate copolymer, octylacrylamide/acrylates copolymer, monoethyl ester of poly (methyl vinyl ether-maleic acid), and octylacrylamide/acrylate/butylaminoethyl methacrylate copolymers, acrylic acid/t-butyl acrylate copolymers, dimethylaminoethyl methacrylate/isobutyl methacrylate/2-ethylhexyl-methacrylate terpolymers, t-butylacrylate/acrylic acid copolymers, and silicone grafted terpolymers, e.g. t-butylacrylate/acrylic acid/PDMS and mixtures thereof. PVP and PVP copolymers with other monomers are preferred. The most preferred resins for use in the present hair care compositions are copolymers of polyvinyl pyrrolidone and vinyl acetate (PVPNA).

Detailed Description Paragraph Table (2):

Example No.	Component	(wt %)	5	6	7	8	9
1.00	Salcare .RTM. SC95 (2)	0.00	1.00	0.00	0.00	0.00	0.00
1.00	Salcare .RTM. SC96 (1)	1.00	0.00	0.70	2.00		
1.00	1.00 2.00 0.60 PVP/VA Copolymer (4)	0.00	1.00	0.00	2.00	1.00	
	Glycol 4 0.50 0.50 0.00 0.50 0.45 Polyethylene Glycol 5M	0.005	0.01	0.00	0.10	0.01	
	Disodium EDTA 1.00 0.15 0.15 0.75 0.15 Preservative	0.35	0.35	0.35	0.35	0.35	
	Fragrance 1.00 1.00 1.00 1.00 0.05 Ethanol 0.00 70.00	0.00	0.00	0.00	0.00	0.00	
	0.02 0.00 0.02 0.05 Crotein Q (5) 0.00 0.00 0.02 0.00	0.01					
	0.02 0.25 0.00 0.25 0.01 OMC (6) 0.00 0.00 0.00 0.00	0.01					
	0.02 0.00 0.00 0.01 Water 97.00 24.99 96.80 91.90 96.30						

1 Polyquaternium 37 (and) Propylene Glycol Dicaprylate/Dicaprate (and) PPG1 Trideceth 6, commercially available from Allied Colloids Ltd., (Norfolk, VA, USA). 2 Polyquaternium 37 (and) Mineral Oil (and) PPG1 Trideceth 6, commercially available from Allied Colloids Ltd., (Norfolk, VA, USA). 3 Premix of polydimethylsiloxane gum/polydimethylsiloxane fluid (40:60 ratio) from GE Silicones and up to 30% polysorbate 80. 4 PVP/VA (70/30) available from ISP 5 Hydrolyzed Animal Protein available from Croda, Inc. 6 Octylmethoxy cinnamate, available from GivaudanRoure, Inc. 7 Crosilk Liquid, available from Croda, Inc.

Detailed Description Paragraph Table (4):

Premix Example No.	Component	(wt %)	13	14
(2) 3.22	0.00 Ethanol 16.13 16.13 Gaffix VC713 (3) 4.30 5.38 Cocamine oxide	0.65		
0.65	Cocamide DEA 0.32 0.32 Polyethylene Glycol 4 0.48 0.38 Panthenol	0.05	0.16	
Perfume 0.11	0.11 Water 74.20 74.73 Total Premix 100.00 100.00 Mousse Premix	93.00		
93.00	Isobutane Propellant 7.00 7.00 100.00 100.00			

1 Polyquaternium 37 (and) Propylene Glycol Dicaprylate/Dicaprate (and) PPG1 Trideceth 6, commercially available from Allied Colloids Ltd., (Norfolk, VA, USA). 2. Premix of polydimethylsiloxane gum/polydimethylsiloxane fluid (40:60 ratio) from GE Silicones and up to 30% polysorbate 80. 3 Vinyl caprolactam /PVP/ dimethylaminoethyl methacrylate copolymer.

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L13: Entry 30 of 37

File: USPT

Apr 26, 1994

DOCUMENT-IDENTIFIER: US 5306434 A

TITLE: Hair care composition containing dispersed silicone oil

Abstract Text (1):

Hair care compositions are provided in which a silicone oil is dispersed in water by the action of a diquaternalary polydimethylsiloxane. Polyvinylpyrrolidone may be included as a co-dispersant/stabilizer. The dispersed silicone oil combination is useful in hair conditioner formulations.

Brief Summary Text (5):

Since silicone oils are substantially water-insoluble, after application to the hair they tend to remain thereon despite rinsing with water. Silicone oil can therefore be applied in a shampoo, or in a hair conditioner applied after shampooing, and then followed by water-rinsing.

Brief Summary Text (8):

Cationic hair conditioning agents are also commonly used in hair treating compositions. Typically, cationic hair conditioning agents contain one or more cationic quaternary nitrogen groups, and one or more hydrophobic long chain aliphatic or silicone polymer. The cationic group can provide a degree of substantivity between the conditioning agent and hair. The long chain hydrophobic groups, which are derived from long chain fatty acids, or are silicone polymers, can provide hair conditioning functions.

Brief Summary Text (11):

Cationic silicone polymers have been proposed for use in hair conditioning compositions, as disclosed in U.S. Pat. Nos. 4,529,586, 4,597,962 and 4,839,167. U.S. Pat. No. 4,529,586 describes a hair conditioning composition in which one of the ingredients is an amino functional silicone polymer. The composition also contains a cationic surfactant-emulsifier and a cationic polymer.

Brief Summary Text (15):

This invention is based in part on the discovery that certain diquaternalary dimethylpolysiloxanes can act as a primary dispersant or solubilizing agent for silicone oil in an aqueous carrier. This discovery facilitates preparation of hair care compositions which contain silicone oil in aqueous admixture with quaternary hair conditioning agents. Other commercially available quaternary hair conditioning agents are not effective for dispersion of silicone oil in water. In the compositions of this invention, diquaternalary polydimethylsiloxanes perform a double function, acting not only as cationic hair conditioners, but also and importantly as a dispersing agent for a silicone oil conditioner. These compositions can thereby effectively combine the conditioning properties of silicone oil and the diquaternalary polydimethylsiloxane.

Brief Summary Text (16):

In the development of this invention, it was further discovered to be desirable to incorporate polyvinylpyrrolidone (PVP) in the formulations. More specifically, it appears that PVP acts as a co-dispersant for silicone oil. Consequently, when PVP is used in combination with certain diquaternalary polydimethyl-siloxanes, smaller concentrations of each of these ingredients can be employed to effectively disperse

a given amount of silicone oil, or more silicone oil can be dispersed with the same concentration of the diquaternalary dispersant.

Brief Summary Text (17):

The composition of the present invention are preferably formulated as dilute aqueous dispersions. For example, the combination of the silicone oil, diquaternalary, and PVP may comprise together from 1 to 44 by weight of the formulation. Other water-soluble or emulsifiable hair treating agents can be included, such as dimethicone copolyol, glycerine, cetyl alcohol, stearyl alcohol, glyceryl stearate, stearamidopropyl dimethylamine, dimethicone copolyol sulfosuccinate, etc. Complete formulations with such added ingredients may be produced with part of the ingredients in aqueous solution and other ingredients dispersed as a stable emulsion.

Detailed Description Text (4):

For dispersing the silicone oil in the water carrier in accordance with the present invention it is essential to employ a diquaternalary polydimethylsiloxane which can function as an effective dispersant/emulsifier for silicone oils. It is believed that such diquaternalary compounds can have an average molecular weight in the range from 1000 to 4000, and that they may contain siloxane chains in the range from 5 to 40 dimethylsiloxyl units. These diquaternalary compounds, suitable for use in the formulations of this invention, can have the following formula: ##STR1## wherein Z is the ##STR2## n is a number from 5 to 40, or preferably 25 to 35, and both R's are short chain alkyl groups containing from 2 to 8 carbons, or preferably 4 to 6 carbons.

Detailed Description Text (5):

While the molecular weight of these compounds can range from 1000 to 4000, in preferred embodiments the average molecular weight is in the range from 2500 to 3500. Such a diquaternalary polydimethylsiloxane is available from Goldschmidt AG, Essen, Germany, as "ABIL-Quat" 3272. It's understood to have an average molecular weight of around 3000, a siloxane chain containing an average of 30 dimethylsiloxyl units, and short chain alkyl groups containing 5 carbons. "ABIL-Quat" 3270 is another diquaternalary polydimethylsiloxane available from Goldschmidt. While it can be used for the purposes of this invention, it is less preferred for dispersing silicone oil. The 3270 compound is understood to have an average molecular weight of about 1500, a siloxane chain containing an average of 10 dimethylsiloxyl units, and short chain alkyl groups of 5 carbon length.

Detailed Description Text (8):

Dispersal of the silicone oil by the action of the diquaternalary appears to be assisted by the inclusion of a small amount of polyvinylpyrrolidone (PVP). For example, the amount of PVP used may range from 0.1 to 2.0% by weight of the total composition. In preferred embodiments, the amount of PVP is within the range from 0.5 to 1.5 weight percent of the total composition. PVP is available commercially with various average chain lengths. In general, for purposes of the present invention, the PVP can have an average molecular weight in the range from 10,000 to 100,000. In preferred embodiments, a PVP is selected which has a molecular weight in the range from 20,000 to 60,000. For example, a suitable PVP is obtainable from ISP Corporation, Wayne, N.J. being sold as "PVP K-30". The designation "30" is understood to indicate that the average molecular weight is approximately 30,000.

Detailed Description Text (16):

(2) With moderate agitation disperse the PVP, FD&C blue dye, glycerine, hydroxyethylcellulose and citric acid. Continue mixing until homogeneous.

Detailed Description Paragraph Table (1):

		Parts by Weight		Ingredients		Broad Preferred	
2.0	0.5-1.5	Diquaternalary	0.1-1.5	0.2-1.0	Polydimethylsiloxane.sup. (b)	PVP.sup. (c)	
					Water 70-95	Silicone Oil.sup. (a)	0.2-

0.1-2.0 0.5-1.5 _____ .sup.(a) Dimethicone and/or dimethiconol polymer. .sup.(b) "ABILQuat" 3272 or 3270, trademarked products of Goldschmidt AG. .sup.(c) Molecular weight 20,000-60,000, viz. "PVPK-30", ISP Corp. (formerly GAF Corp.)

Detailed Description Paragraph Table (2):

	Weight	Ingredients	Percent
	Water 89.13	FD&C Blue No. 1	0.00000 Glycerin
1.00 Citric Acid	0.17	Polyvinylpyrrolidone .sup.(a)	1.00
Hydroxyethylcellulose .sup.(b)	0.70	Quaternium-18 .sup.(c)	1.50 Diquaternary polydimethylsiloxane .sup.(d)
0.30 Cetyl Alcohol	2.00	Stearyl Alcohol	0.70
Steareth-21	0.30	Glyceryl Stearate	0.30 Stearamidopropyl Dimethylamine
0.50 Dimethicone .sup.(e)	0.90	Oleamine Oxide	0.40 Dimethicone Copolyol .sup.(f)
0.30 Disodium Dimethicone Copolyol Sulfosuccinate .sup.(g)	0.20	DMDM Hydantoin	0.20
Fragrance	0.40	100.00 _____ .sup.(a)	PVP K30, ISP Corp. .sup.(b)
Watersoluble cellulose ether. .sup.(c)		Dimethyl dihydrogenated tallow ammonium chloride. .sup.(d)	"ABILQuat" 3272, trademarked product of Goldschmidt AG. .sup.(e)
Dimethyl polysiloxane, (Av. mol. wt. 60,000), "Masil" SF 60,000 trademarked product of Mazer Chemicals; or dimethicone/dimethiconol, Flui Q21403, trademarked product of Dow Corning. .sup.(f)		Dow Corning 193 Surfactant. .sup.(g)	"Mackanate" DC30, trademarked product of McIntyre Group, Ltd., Chicago, Illinois.

CLAIMS:

1. An after-shampoo hair conditioner composition comprising an aqueous dispersion of a water-insoluble hair-conditioning silicone oil having a viscosity of from 10,000 to 60,000 cps and being present in an amount of 0.20 to 2.0% by weight of the composition, said composition containing a dispersing agent for said silicone oil consisting of 0.1 to 1.5% of a diquaternary polydimethylsiloxane having an average molecular weight from 1000 to 4000, said polydimethylsiloxane having the diquaternary structure of the formula: ##STR3## wherein Z is ##STR4## and n is a number from 5 to 40 and both R's are an alkyl group containing from 4 to 6 carbons.

3. An after-shampoo hair conditioner composition comprising a stable emulsion containing 85 to 95% water, 0.5 to 1.5% of a water-insoluble hair-conditioning silicone oil, and 0.2 to 1.0% of a diquaternary polydimethylsiloxane dispersing agent for the silicone oil, said percentages being based on the weight of the composition, said silicone oil having a viscosity of 10,000 to 60,000 cps, and said polydimethylsiloxane having an average molecular weight from 2500 to 3500, said polydimethylsiloxane having the diquaternary structure of the formula: ##STR5## wherein Z is ##STR6## and n is a number from 25 to 35 and both R's are an alkyl group containing from 4 to 6 carbons.

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BIBDATASHEET**CONFIRMATION NO. 3449**

Bib Data Sheet

SERIAL NUMBER 10/692,490	FILING DATE 10/24/2003 RULE	CLASS 424	GROUP ART UNIT 1615	ATTORNEY DOCKET NO. J&J 2047 DIV
APPLICANTS Susan Niemiec, Yardley, PA; Snehal Shah, Cerritos, CA; Elvin R. Lukenbach, Flemington, NJ;				
** CONTINUING DATA ***** This application is a DIV of 09/939,885 08/27/2001 ABN which is a CIP of 09/320,894 05/27/1999 ABN				
** FOREIGN APPLICATIONS *****				
IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 02/02/2004				
Foreign Priority claimed 35 USC 119 (a-d) conditions met Verified and Acknowledged	<input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance Examiner's Signature _____ Initials _____	STATE OR COUNTRY PA	SHEETS DRAWING 0	TOTAL CLAIMS 21
				INDEPENDENT CLAIMS 1
ADDRESS 000027777 PHILIP S. JOHNSON JOHNSON & JOHNSON ONE JOHNSON & JOHNSON PLAZA NEW BRUNSWICK , NJ 08933-7003				
TITLE Compositions for application to the skin or hair				
FILING FEE	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time)	

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L4: Entry 2 of 7

File: USPT

Jun 6, 2000

DOCUMENT-IDENTIFIER: US 6071535 A

TITLE: Lipid vesicles formed with alkylammonium fatty acid salts

Detailed Description Text (56):

CATEZOMES.TM. liposomes of the invention were produced as in Example 1 to contain 20% of each of the following silicone hair actives respectively: cyclomethicones, dimethicones and dimethiconols. These silicone hair active formulations have been shown to improve the feel of hair when used at levels below those of other conditioning agents such as centrimonium chloride.

Detailed Description Text (57):

In one embodiment, in order to show the effectiveness of such liposome formulations of the invention, a panel of six volunteers (3 male, 3 female) were asked to stroke hair tresses treated with conditioning agents and to rank the tresses according to how good the tresses felt. The CATEZOMES.TM. SI were formulated in water to give a final concentration of 0.25% (w/v) silicone. Two different hair tress samples was treated with the CATEZOMES.TM. liposomes formulation containing 20% dimethicone (CATEZOMES.TM. SI). This CATEZOMES.TM. SI formulation was compared to a formulation using the conventional conditioning agent centrimonium chloride formulated into water with a final concentration of 0.5% (w/v) centrimonium chloride. Following treatment, the hair tresses were either rinsed with water or left in the tress.

Detailed Description Text (59):

rinsed (rinse-out) and FIG. 12B provides data for the tresses which had the formulations left in (leave-in). The data show that the CATEZOMES.TM. SI liposomes containing 20% of the silicone hair active dimethicone improves the overall feel of the hair as compared to standard conditioning agents.

Detailed Description Text (62):

CATEZOMES.TM. SI liposomes of the invention produced as in Example 10 (containing 20% dimethicone) have been shown to reduce combing damage of the hair at use levels below those of other conditioning agents such as centrimonium chloride. Damage to the hair cuticle caused by combing was measured by observing the amount of protein removed during the combing process using the CATEZOMES.TM. SI formulation of Example 10 as compared to the centrimonium chloride formulation of Example 10. Combing damage was compared both when the hair was wet and after being dried with a household drier following either rinse-out of conditioner (FIG. 13A) or leave-in of conditioner (FIG. 13B). The data show that CATEZOMES.TM. SI decrease protein loss from hair at use levels below those of centrimonium chloride. Thus, the CATEZOMES.TM. SI protect the hair shaft.

Detailed Description Text (64):

CATEZOMES.TM. SI liposomes of the invention produced as in Example 10 (containing 20% dimethicone) have been shown to reduce static charge on the hair at use levels below those of other conditioning agents such as centrimonium chloride. Static charge caused by combing was measured by observing the degree of spread of a hair tress following combing after using the CATEZOMES.TM. SI formulation of Example 10 as compared to the centrimonium chloride formulation of Example 10. Using a plastic comb, the hair tress was combed rapidly with 20 full length strokes. Following combing, the degree of spread of the hair tress was measured in centimeters for

hair following rinse-out of the formulation (FIG. 14A) or leave-in of the formulation (FIG. 14B). The data show that the CATEZOMES.TM. SI liposomes of the invention decrease static build up on the hair and improve the manageability of hair as compared to standard conditioning agents.

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L8: Entry 11 of 11

File: USPT

Jul 17, 1990

DOCUMENT-IDENTIFIER: US 4942038 A

**** See image for Certificate of Correction ****

TITLE: Encapsulated humectant

Brief Summary Text (4):

Surfactants and other nonphospholipid vesicles make areas which heretofore fiscally infeasible now possible. For example, L'Oreal has a "niosome" line of products which is based on nonphospholipid materials, and the present inventor and others at Micro Vesicular Systems have developed techniques for formation and utilization of nonphospholipid materials which yield results that were considered impossible only a few years ago. These new techniques and materials make everyday use of lipid vesicles a reality.

Brief Summary Text (12):

The encapsulated humectant can be used in a number of different animal care products. Shampoos, moisturizing sprays, and cream rinses which contain the encapsulated humectant and, possibly, an active hair conditioning or a medicated agent, are also considered part of the present invention. Examples of these shampoos with medicated agents include coal tar shampoo, salicylic acid-sulphur shampoos, and benzoyl peroxide shampoos.

Brief Summary Text (16):

As noted, a variety of nonphospholipid surfactants are useful in preparing the lipid vesicles of the invention. Examples of these surfactants include polyoxyethylene lauric, myristic, cetyl, stearic, and oleic acid esters; lauric, myristic, cetyl, unsaturated octadecyl, and unsaturated eicodienoic polyoxyethylene ethers; caprylic, lauric, myristic, and linoleic diethanolamines; glucosamine, galactosamine, and N-methylglucamine long-chain acyl hexosamides; long-chain acyl amino acid amides; polyoxyethylene sorbitan mono- and trioleates, palmitates and stearates; polyoxyethylene glyceryl monostearate; glycerol monostearate; and glycerol monooleate. Additional nonphospholipid surfactants also may be useful in the invention. The only requirement for these materials is that they form stable paucilamellar lipid vesicles which show high water uptake and good mechanical stability.

Brief Summary Text (17):

A variety of moisturizers can be used in the invention but aqueous-soluble or suspendable moisturizers are preferred. The high aqueous volume uptake properties of the paucilamellar lipid vesicles used in this invention permit concentrated doses of the moisturizer to be delivered to the hair follicles of the animal to which the moisturizer is applied. In addition, the trapped water and lipids themselves have moisturizing properties. Mineral oil is added to the vesicles for osmotic stability.

Detailed Description Text (13):

The second portion of the aqueous phase is made by dissolving approximately 38.6 g of KH.sub.2 PO.sub.4, 9.0 g NaOH, 210 g NaCl, and 3.79 kg LUBRAJEL (vaseline-type moisturizer, Guardian Chemical Co.) in about 5 gal. of the deionized water at

55.degree.-65.degree. C. LUBRAJEL is a standard external dog and cat skin and hair moisturizer. The salts are mixed first at about 65.degree. C. and the LUBRAJEL is then added. These ingredients readily go into solution. The stabilizer portion of the aqueous phase is then added to the moisturizer portion and the volume is adjusted to approximately 7.5 gal.

Other Reference Publication (12):

"Les Niosomes", Handjani-Vila et al., Les Liposomes, Puisieux and Delattre, Eds., Techniques et Documentation la Voisier Paris, pp. 297-313 (1985).

CLAIMS:

9. A cream rinse for pet care comprising an humectant and an active hair conditioning agent, said humectant having a moisturizer and mineral oil encapsulated in a paucilmalleolar lipid vesicle said lipid vesicle having a nonphospholipid surfactant selected from the group consisting of glycerol monostearate, glycerol monooleate, and polyoxyethylene sorbitan oleates, palmitates, and stearates as its major lipid component.

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